



**ENGINEERING OPERATIONS COMMITTEE
MEETING MINUTES
SEPTEMBER 11, 2002 - 1:30 P.M.
EXECUTIVE CONFERENCE ROOM**

Present:	L. E. Tibbits C. Roberts T. Davies S. Bower	G. D. Taylor M. VanPortFleet J. W. Reincke	J. D. Culp J. D. O'Doherty T. Fudaly
Guests:	J. Friend D. Lighthizer J. T. LaVoy P. W. O'Rourke D. Calabrese	T. Anderson D. L. Smiley T. Rathbun R. S. Welke M. Frankhouse	C. Libiran M. Bott C. Bleech R. Rizzo M. Scheuer

OLD BUSINESS

1. Approval of the Minutes of the July 11, 2002, Meeting - L. E. Tibbits

Minutes of the July 11, 2002, meeting were approved.

2. Sidewalk Ramp Detectable Warning (See July 11, 2002, Minutes, New Business, Item 1) - C. Libiran

The Design Division has revised the standards for sidewalk ramp details to include truncated domes. A special provision has been written to include detectable warning/truncated domes in the construction of sidewalk ramps

ACTION: Implementation will coincide with the March 2003 letting. The Design Division will detail these actions and our concurrence in a memo to FHWA.

3. Pavement Demonstration Program (See June 6, 2002, Minutes, New Business, Item 2) - S. Bower

The guidelines for a Pavement Demonstration Program were presented. They were reviewed and commented upon by the regions. Currently, the Metro and North Regions are proposing projects to be included under this program for FY 2004.

ACTION: The guideline is approved and the final version will be distributed to the regions and road design engineers.

4. Pavement Acceptance (See June 6, 2002, Minutes, New Business, Item 3) - S. Bower

Several issues were raised and discussed. Larry Tibbits recommended that Steve Bower set up a special meeting to address the concerns before returning this item to EOC.

NEW BUSINESS**1. Pavement Selections - K. Kennedy and C. Bleech****A. US-10 Rehabilitation: CS 18024, JN 53304/Bituminous Pavement Selection**

The rehabilitation alternates considered were a rubblize and HMA overlay (Alternate 1 - Equivalent Uniform Annual Cost [EUAC] \$22,467/directional mile) and an unbonded jointed plain concrete overlay (Alternate 2 - EUAC \$31,678/directional mile).

A life cycle cost analysis was performed and Alternate 1 was approved based on having the lowest EUAC. The pavement design and cost analysis are as follows:

1.5"	.....	HMA 5E10, Top Course
2"	.....	HMA 4E10, Leveling Course
3"	.....	HMA 3E10, Base Course
6.5"	.....	HMA 4C, 3C, and 2C (Outside Shoulder)
9.6"	.....	Rubblized Concrete
13"	.....	Existing Base/Subbase (13" Minimum) Underdrain System
29.1"	.....	Total Thickness (29.1" Minimum)
Present Value Initial Construction Costs	.....	\$286,624/directional mile
Present Value Initial User Costs	.....	\$9,415/directional mile
Present Value Maintenance Costs	.....	\$86,613/directional mile
EUAC	.....	\$22,467/directional mile

B. I-96 Rehabilitation: CS 70063, JN 50804/Concrete Pavement Selection

The rehabilitation alternates considered were a rubblize and HMA overlay (Alternate 1 - EUAC \$39,371/directional mile) and an unbonded jointed plain concrete overlay (Alternate 2 - EUAC \$38,069/directional mile).

A life cycle cost analysis was performed and Alternate 2 was approved based on having the lowest EUAC. The pavement design and cost analysis are as follows:

6.5"	.....	Jointed Plain Concrete Pavement (14' joint spacing)
1"	.....	Bond Breaker (Bit Mix 13A)
9"	.....	Repaired Concrete Pavement
14"	.....	Existing Base/Subbase Underdrain System
30.5"	.....	Total Thickness

Present Value Initial Construction Costs	\$424,114/directional mile
Present Value Initial User Costs	\$146,043/directional mile
Present Value Maintenance Costs	\$43,009/directional mile
EUAC	\$38,069/directional mile

C. I-94 Reconstruction/Rehabilitation: CS 82022, JN 34014/Concrete Pavement Selection

The first reconstruction alternate considered was a hot mix asphalt (HMA) pavement (Alternate 1, combined EUAC - \$58,670/kilometer). The second reconstruction alternate considered, which includes major rehabilitation of the two outside lanes in some areas, was a jointed plain concrete pavement (JPCP) using a P1 modified concrete mix (Alternate 2, combined EUAC - \$47,341/kilometer).

A life cycle cost analysis was performed and Alternate 2 was approved based on having the lowest EUAC. The pavement design and cost analysis are as follows:

320mm	Jointed Plain Concrete Pavement (Mainline & OS Shoulder) (4.5m joint spacing)
240mm	Jointed Plain Concrete Pavement (Inside Shoulder) (4.5m joint spacing)
400mm	Aggregate Base Modified (21AA) (480mm Inside Shoulder) Geotextile Separator
150mm	Open Graded Underdrains
720mm	Total Thickness

Present Value Initial Construction Costs	\$743,707/kilometer
Present Value Maintenance Costs	\$138,240/kilometer
EUAC	\$49,272/kilometer

D. I-375/I-375 Business Spur Reconstruction: CS 82111, JN 47592/Bituminous Pavement Selection

This pavement selection was approved by EOC during the last month via email:

The rehabilitation alternates considered were a flexible bituminous pavement (Alternate 1 - EUAC \$43,116/directional kilometer) and a jointed reinforced concrete pavement (Alternate 2 - EUAC \$52,840/directional kilometer).

A life cycle cost analysis was performed and Alternate 1 was approved based on having the lowest EUAC. The pavement design and cost analysis are as follows:

Alternate 1A (22.4 Percent of the Project) Reconstruct: Bituminous (2 Lanes, New Subbase)

48mm	Bituminous Mix 4E10, Top Course
63mm	Bituminous Mix 4E10, Leveling Course

106mm	Bituminous Mix 2E10, Base Course
217mm	Bituminous Mix 4C, 3C, & 2C (Outside Shoulder)
400mm	Aggregate Base (21 AA Modified) Geotextile Separator
200mm	Proposed Sand Subbase
150mm	Underdrains
817mm	Total Thickness

Alternate 1B (47.9 Percent of the Project) Reconstruct: Bituminous (3 Lanes, New Subbase)

48mm	Bituminous Mix 4E10, Top Course
63mm	Bituminous Mix 4E10, Leveling Course
106mm	Bituminous Mix 2E10, Base Course
217mm	Bituminous Mix 4C, 3C, & 2C (Outside Shoulder)
400mm	Aggregate Base (21 AA Modified) Geotextile Separator
200mm	Proposed Sand Subbase
150mm	Underdrains
817mm	Total Thickness

Alternate 1C (15.9 Percent of the Project) Reconstruct: Bituminous (3 Lanes, Existing Subbase)

48mm	Bituminous Mix 4E10, Top Course
63mm	Bituminous Mix 4E10, Leveling Course
106mm	Bituminous Mix 2E10, Base Course
217mm	Bituminous Mix 4C, 3C, & 2C (Outside Shoulder)
400mm	Aggregate Base (21 AA Modified) Geotextile Separator
200mm	Existing Sand Subbase
150mm	Underdrains
817mm	Total Thickness

Alternate 1D (10.3 Percent of the Project) Reconstruct: Bituminous (5 Lanes, New Subbase)

48mm	Bituminous Mix 4E10, Top Course
63mm	Bituminous Mix 4E10, Leveling Course
106mm	Bituminous Mix 2E10, Base Course
400mm	Aggregate Base (21 AA Modified) Geotextile Separator
200mm	Proposed Sand Subbase
150mm	Underdrains
817mm	Total Thickness

Alternate 1E (3.5 Percent of the Project) Reconstruct: Bituminous (5 Lanes, Existing Subbase)

48mm	Bituminous Mix 4E10, Top Course
63mm	Bituminous Mix 4E10, Leveling Course
106mm	Bituminous Mix 2E10, Base Course
400mm	Aggregate Base (21 AA Modified)
	Geotextile Separator
200mm	Existing Sand Subbase
150mm	Underdrains
817mm	Total Thickness
Present Value Initial Construction Costs	\$511,259/directional kilometer
Present Value Initial User Costs	\$135,834/directional kilometer
Present Value Maintenance Costs	\$106,238/directional kilometer
EUAC	\$43,116/directional kilometer

2. Updated Soil Erosion and Sedimentation Control and National Pollution Discharge Elimination System Documents - R. S. Welke and P. W. O'Rourke

The subject documents have been updated to provide clear information and direction regarding the minimization and prevention of soil erosion and sedimentation. A thorough understanding of our environmental obligations will provide for a healthy environment and reduce the number of MDEQ violations, and will minimize program audit challenges. All documents have received region review. The recommendation requested EOC approval of the documents, subject to MDEQ approval of the *Soil Erosion and Sedimentation Control Manual*.

ACTION: The documents are approved and may be finalized, taking into account the comments made by EOC. A letter will be written to MDEQ requesting their approval of the manual.

3. Rural Intersection Decision Support: Reducing Crashes at Rural Intersections - J. Friend and D. Lighthizer

A recommendation was made that MDOT participate in a national pooled fund research study for the amount of \$22,000 per year for three years. Rural crashes have a high mortality rate, hence the department will benefit from this study.

ACTION: Approved. Dale Lighthizer will be the department's representative to the pooled fund project research panel.

4. New Design Specifications for Traffic Signal Mast Arms - M. Scheuer and T. Myers

The Traffic and Safety Division recommends a new detail and specification for traffic signal mast arms. This will bring the department's standard into compliance with the 2001 AASHTO design requirements.

Mark VanPortFleet (Design Division) recommends we use as a special detail for a period to pilot its use. This would develop some history with its use before submitting it for FHWA approval as a standard plan.

ACTION: Approve as a special detail.

(Signed Copy on File at C&T)

Jon W. Reincke, Secretary
Engineering Operations Committee

JWR:kar

cc:	EOC Members	J. Ruszkowski	T. E. Myers	J. Murner (MRPA)
	Region Engineers	R. D. Till	T. Phillips	M. Nystrom (AUC)
	G. J. Rosine	C. Libiran	D. L. Smiley	R. J. Risser, Jr. (MCPA)
	C. T. Maki	M. Frierson	K. Peters	A. C. Milo (MRBA)
	J. Friend	C. W. Whiteside	T. L. Nelson	J. Becsey (MAPA)
	T. Anderson	L. Stornant	D. A. Juntunen	D. Hollingsworth (MCA)
	R. J. Lippert, Jr.	K. Rothwell	J. Steele (FHWA)	M. Newman (MAA)